

We claim:

1. A method of tracing a crop comprising:
  - electronically recording at least one of planting information, growing information, harvesting information, chemical application information, and weather information for a particular crop from a defined geographic area;
  - forming a respective data profile for the particular crop based on the recorded information;
  - segregating the particular crop after harvesting from intermixing with other harvested crops;
  - electronically recording a storage identifier associated with one or more corresponding storage volumes for holding the segregated particular crop;
  - and
  - associating the formed data profile with the storage identifier for each of the one or more storage volumes for holding the segregated particular crop.
2. The method according to claim 1 wherein the segregating comprises placing the particular crop in the one or more storage volumes, each storage volume having a corresponding storage identifier.
3. The method according to claim 1 further comprising:
  - delivering at least one of the one or more storage volumes with the segregated particular crop therein to a recipient and making at least a portion of the data profile for the segregated particular crop available to the recipient.
4. The method of tracing a crop as defined by claim 1 further comprising:
  - placing the particular crop in one or more containers as said storage volumes without first accumulating the crop in a bulk unit larger than the capacity of the one or more containers into which the particular crop is placed.
5. The method of tracing a crop as defined by claim 1 further comprising:

placing the particular crop in the one or more containers as said storage volumes when the crop is discharged from a harvesting machine.

6. The method of tracing a crop as defined by claim 1 further comprising:  
discharging the particular crop from a harvesting machine into an intermediate vessel;

removing the crop from the intermediate vessel into the one or more storage volumes;

recording transit information regarding time and location of the discharging of the crop into the intermediate vessel and the removing the crop from the intermediate vessel; and

associating a data profile, including the recorded transit information, with the storage identifier of the one or more storage volumes for receiving the particular harvested crop.

7. The method of tracing a crop as defined by claim 1 wherein each one of the storage volumes is selected from the group consisting of a segregated storage bin, a container, and an inter-modal freight container.

8. The method of tracing a crop as defined by claim 1 further comprising:  
storing the data profile of the particular crop on or in the one or more storage volumes.

9. The method of tracing a crop as defined by claim 8 wherein the storing comprises storing the data profile in at least one of the following: a barcode, an radio-frequency tag, an electronic tag, and an electronic data memory device carried in or on each of the one or more storage volumes.

10. The method of tracing a crop as defined by claim 1 further comprising:  
electronically transmitting the data profile of the particular crop to one or more potential users of the particular crop via a communications network to facilitate sales

to, acquisition by, deliveries to, or process control of the particular crop by one or more potential users.

11. The method of tracing a crop as defined by claim 1 further comprising:

receiving adjacent crop information regarding an adjacent crop in an adjacent location with respect to the particular crop, the adjacent crop information including one or more of a precursor identity for the particular crop, a seed identity, a stock identity, a seed source, a stock source, a seed parentage, a stock parentage, a precursor genetic history, a crop maturity, a planting date, a planting location, the soil conditions at a planting time, or any chemical application for the adjacent crop;

combining the adjacent crop information into the data profile for the particular crop; and

tailoring a genetic test of the particular crop based on a genetic make-up of the adjacent crop.

12. The method according to claim 1 further comprising:

sending a load of profile data and corresponding storage identifier in response to a triggering event associated with operation of an agricultural machine.

13. The method according to claim 1 wherein the triggering event comprises an operator request to shut-down or turn-off an agricultural machine.

14. The method according to claim 1 wherein the defined geographic area is selected from the group consisting of a field location, a sub-field location, geographic coordinates defining the field location, geographic coordinates defining the sub-field location, and geographic coordinates defining a boundary of a region.

15. A method of tracing a crop, the method comprising:

electronically recording planting information about the characteristics of a particular crop from a defined geographic area, the planting information including at least one of a planting date, a planting time of day, a precursor identity for the

particular crop, a seed identity, a seed identity, a seed source, a stock source, a planting location, a precursor genetic history, a seed parentage, a stock parentage, a crop maturity date, a planting date, a planting location, soil conditions at a planting time, and any chemical application;

segregating the crop after harvesting from intermixing with other harvested crop by placing the crop in one or more containers each having a container identifier;

electronically recording the container identifier of the one or more containers; and

associating a data profile, including the planting information, with the container identifier for each of the one or more containers.

16. The method according to claim 15 further comprising:

arranging the data profile to contain at least one of the recorded planting information, growing information, and harvesting information.

17. The method according to claim 15 further comprising:

electronically recording growing information about further characteristics of the particular crop including at least one of chemical data, fertilizer data nutrient data, pesticide data, herbicide data, fungicide data, irrigation data, water data, temperature data, sunlight data; a rate of application of at least one of a chemical, fertilizer, nutrient, pesticide, herbicide, fungicide, water, or another crop input; and rate of application versus location of application of at least one of a chemical, fertilizer, nutrient, pesticide, herbicide, fungicide, water, or another crop input.

18. The method according to claim 15 further comprising:

electronically recording harvesting information about further characteristics of the particular crop including at least one of a harvesting date, a harvesting location where harvested, a yield of the harvested particular crop, a moisture content of the harvested particular crop, a physical condition of the harvested particular crop, and settings of a harvesting machine used to harvest the particular crop, and an identifier

of the one or more storage volumes into which the harvested particular crop is placed.

19. The method of tracing a crop as defined by claim 18 further comprising:  
combining the recorded planting information and the recorded harvesting information to form the data profile based on recorded planting location information and recorded harvesting location information for the particular crop, such that the planting location information is correlated to respective harvesting location information for the defined geographic area in which the particular crop is grown.
20. The method of tracing a crop as defined by claim 18 further comprising:  
electronically recording the planting location information where planted during or after the planting of a precursor to the particular crop; and  
electronically recording the harvesting location where harvested during or after the harvesting of the particular crop.
21. The method according to claim 15 wherein the defined geographic area is selected from the group consisting of a field location, a sub-field location, geographic coordinates defining the field location, geographic coordinates defining the sub-field location, and geographic coordinates defining a boundary of a region.
22. The method according to claim 15 further comprising:  
applying at least one of fertilizer, insecticide, herbicide and another chemical before or after planting of the particular crop;  
recording chemical information regarding the application of at least one of the fertilizer, insecticide, herbicide and another chemical; and  
adding the chemical information to the data profile.
23. The method of tracing a crop as defined by claim 15 further comprising:  
recording weather conditions at the defined geographic area of the particular

crop; and

adding the weather information to the data profile.

24. A system for tracing a crop, the system comprising:

data storage device for electronically recording at least one of planting information, growing information, harvesting information, chemical application information, and weather information about the characteristics of a particular crop from a defined geographic area;

a reader for electronically recording a storage identifier associated with one or more storage volumes for holding the particular crop in a segregated manner after harvesting; and

a data processor for forming a respective data profile for the particular crop based on the recorded information and associating the formed data profile with the storage identifier for each of the one or more storage volumes for holding the particular crop.

25. The system of tracing a crop as defined by claim 24 wherein the reader is adapted to record transit information regarding a first time and a first location of the discharging of the particular crop into an intermediate vessel and a second time and a second location the removing the particular crop from the intermediate vessel; and

the data processor associating a data profile, including the recorded transit information, with the storage identifier of the one or more storage volumes for receiving the particular harvested crop.

26. The system of tracing a crop as defined by claim 24 further comprising:

a storage volume having a data profile storage device for storing a data profile of the particular crop, the data profile storage device comprising at least one of a barcode, an radio-frequency tag, an electronic tag, and an electronic data memory device carried in or on each of the one or more storage volumes.

27. The system of tracing a crop as defined by claim 24 further comprising:

a transmitter for electronically transmitting the data profile of the particular crop to one or more potential users of the particular crop via a communications network to facilitate sales to, acquisition by, deliveries to, or process control of the particular crop by one or more potential users.

28. The system of tracing a crop as defined by claim 24 further comprising:

a data receiver for receiving adjacent crop information regarding an adjacent crop in an adjacent location with respect to the particular crop, the adjacent crop information including one or more of a precursor identity for the particular crop, a seed identity, a stock identity, the seed source identity, a stock source identity, a seed parentage, a stock parentage, a precursor genetic history, a crop maturity, a planting date, a planting location, the soil conditions at a planting time and date, and any chemical application for the adjacent crop; and

a data storage manager for combining the adjacent crop information into the data profile for the particular crop.

29. The system according to claim 24 further comprising:

a transmitter for sending a load of profile data and corresponding storage identifier in response to a triggering event associated with operation of an agricultural machine.

30. The system according to claim 29 wherein the triggering event comprises an operator request or command to shut-down or turn-off an agricultural machine.

31. The system according to claim 24 wherein the defined geographic area is selected from the group consisting of a field location, a sub-field location, geographic coordinates defining the field location, geographic coordinates defining the sub-field location, and geographic coordinates defining a boundary of a region.

32. The system according to claim 24 further comprising:

a data input device for collecting at least one of the planting information, the

growing information, the harvesting information, the chemical application information, and the weather information about the characteristics of the particular crop from the defined geographic area.

33. The system according to claim 32 wherein the data input device includes at least one of a location-determining receiver, a user interface, sensor input, machine electronics, an input port, the reader, a reader for reading a seed package label, and a reader for reading a container tag.

34. The system according to claim 32 wherein the data input device includes at least one of the location-determining receiver, a planting information input device, a growing information input device, a harvesting information input device, and a container identification device.

35. The system according to claim 24 further comprising:

- a data management system for managing data profiles of corresponding particular crops;

- a transceiver for transmitting the formed data profile via an electromagnetic signal; and

- a wireless interface for receiving the transmitted data profile and forwarding it to the data management system.

36. The system according to claim 24 further comprising:

- an agricultural machine for housing a grower data processing system comprising the data storage device, the data processor, and the reader.

37. The system according to claim 24 wherein the data processor comprises an arranger for forming a respective data profile for the particular crop based on the recorded information and an assignment module for associating the formed data profile with the storage identifier for each of the one or more storage volumes for holding the particular crop.